

NETWORK VIDEO RECORDER



About this document

Purpose

This document is for Network Video Recorders, including the product features, hardware installation, network access, network configuration, daily maintenance, and troubleshooting.






Intended Audience

This document is intended for:

- Technical support engineer
- Maintenance engineer

Symbol Conventions

This symbol may be founded in this document are defined as follows:

| Symbol | description |
|---|--|
|  DANGER | Alerts you to a high risk hazard that could, if not avoided. |
|  WARNING | Alerts you to a medium or low hazard that could, if not avoid, result in moderate or minor in injury. |
|  CAUTION | Alerts you to a potentially hazard situation that could, if not avoid, result in damage, data loss, performance deterioration, or unanticipated results. |
|  TIP | Provide a tip that may help you solve a problem or save time. |
|  NOTE | Provides additional information to emphasize or supplement important points in the main text. |

Special Notices

When using video surveillance products, comply with applicable statutory and regulatory requirement to enable and maintain legal surveillance device. It is illegal for company or person to install surveillance devices in an office to monitor employees outside scope of local law, or use surveillance devices to invade other people's privacy with illegal purposes.

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1 Preface

1.1 Important note

Thank you for choosing our Network Video Recorder (NVR). Please read this user manual carefully before using NVR.

Network Video Recorder (NVR) is a complicated system equipment. For avoid any fault caused by installation, debugging, operation and environment causes, please read below important note:

- Read this manual carefully before installation.
- In view of the different brands and models of hard disk in the current market, we recommend using SEAGATE and WESTERN Digital with high stability and high performance-price ratio.
- Never open the device cover and disassemble the device by nonprofessional person, otherwise may cause damaging and electric shocking.
- Video data lost caused by installation, configuration, improper operations, and hard disk error is born by the buyer.

1.2 About this manual

Before you use this manual, please read below declarations carefully:

- This manual is intended for NVR user.
- This manual content is suitable for NVR.
- This manual gives example to explain NVR operation details and performance index.
- Before using NVR, please read this manual carefully and follow the steps to install and use.
- For any questions during using the NVR, contact service center. The device may be upgraded without prior notice.

1.3 Check the installation environment

Installation environment

Before installing the device, checking the environment according to the

Table 1-1 Installation environment check items

| Check item | standard |
|--------------------|--|
| Moisture-resistant | The relative environment humidity must be in the range from 5% to 95%. If the humidity is higher than 95%, a dehumidifier must be installed, such as an air conditioner with the dehumidification function or a dedicated. Dehumidifier. In addition, water seepage, water dropping, and dew forming and not allowed. |
| Dustproof | If the office block is near the source of dust, such as the colliery, country install for the offices, and anti-burglary and fireproofing doors must be installed for the equipment room. |
| Lightproof | The device must be installed in the environment that is not shined by a strong light, delaying the aging of the device enclosure. |

Installation notice

During the installation, please notice:

- NVR power input voltage is DC12V (±5%) . The supply voltage must meet the input voltage, can't be higher or lower.
- NVR installation should be kept horizontal.
- NVR installation should avoid direct sunlight, and keep away from heat and high temperature environment.
- Make sure connects NVR with other equipment's normally.
- Install the Hard Disk when use NVR first time.
- NVR can automatically identify the hard drive capacity, support current market mainly models. But for NVR work stable we advise to use good brand hard disk.

Others

- Please use a soft and dry cloth to clean NVR, do not use chemical solvents.
- Don't put other things on NVR.
- NVR is standard of electromagnetic radiation, no harm to human body.

2 Specification

| System | |
|-------------------|---|
| CPU | SOC ,Dual core 930MHz ARM CPU |
| Operating system | Embedded Linux 2.6 |
| Features | Embedded CMS system, fully functional friendly interface, easy to use; Original "quick configuration" feature that enables NVR configuration and management operations easy to get started. Original "camera private network enables Plug-and-play camera access auto detection and schedule setup for fast rapid use. Real-time fault alarm mechanism to timely reporting of hard disks, networks, fault information, such as camera disconnection; Embedded WebServer using Flash technology to support common browsers real-time monitoring and playback. |
| Video | |
| Record Info | 16ch recording ,Maximum recording Bandwidth is 72Mbps Support resolution:5MP,3MP,1080P,720P,D1 |
| Ability to decode | H.264 (ISO / IEC 14496-10) high profile 4.2 4ch up to 1080P playback |
| Real-time video | Single screen: 1x1080p/720p/D1 with tour Quad display of 1080p / 720p / D1 resolutions Split screen 1/4//6/8/9/16 for D1 resolutions |
| Output | 1xVGA ,1xHDMI can display at the same time |
| Storage | |
| HDD | 4 external-swappable hard disk , maximum 4x4TB hard drive supported |

| Audio | |
|----------------------|--|
| In / Out | 3.5mm linear audio output |
| Audio formats | G711_A, G711_U |
| Network | |
| Transmission control | Embedded network bandwidth adaptive flow control technology. |
| Interface | 2 RJ45 10M/100M/1000Mbps network port ; |
| Web | Webserver supported with Flash technology for and popular browsers in real-time monitoring and video playback, and system configuration. |
| Network protocol | RTP/RTCP, TCP/UDP, ONVIF,HTTP, DHCP, DNS Client, RTMP for Flash Video |
| Characteristic | |
| Temperature | Ambient temperature: 0 °C -45 °C, using industrial grade microprocessor, intelligent heating and cooling |
| Humidity | 00% to 90% |
| Power consumption | Low-power design, motherboard max power consumption 8W; with 2 3T hard disk increases 40W power consumption. |
| Power input | AC110/220V,47-63Hz |
| Thermal | The main chip heat sink, plus intelligent temperature controlled fans. |
| Size | Chassis: 440mm x 435mm x 89.9mm (L x W x H) |
| Weight | 8.9Kg No HDD installed. |
| USB | 2x USB2.0 interface, respectively as a backup and USB mouse. |

3 NVR Networking solutions

This the NVR has two Ethernet ports LAN1 and LAN2. Supports the private network of the cameras, and 2nd one for WAN local remote connections. LAN2 is used for network devices for automatic detection within the NVR software.

Option One: Private Network Setup

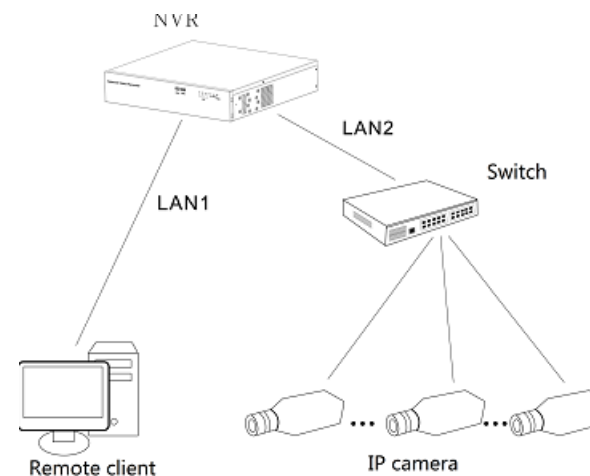
Camcorder network is a network exists only network cameras and NVR, there is no other network equipment, and this network is dedicated to the NVR and network cameras, audio and video transmission. Dedicated camera network must be connected with the NVR LAN2, and ensure that the LAN2 camera network functions are enabled (factory default enabled detailed configuration, see "Network Video Recorder User Manual quick configuration through LAN1 access NVR).

10M/100M/1000Mbps RJ45 Internet port

For connecting the Internet or local network, And NVR need to search the camera by manually.

The camera dedicated network topology shown in Figure 3-1

Figure 3-1 camera dedicated network



4 Installation

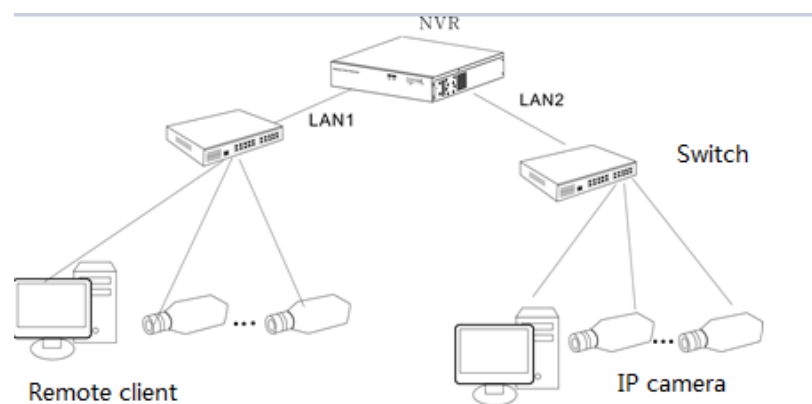
Option II: Open network.

The open network refers to the network in addition to the network cameras and NVR, there can be other network devices, network topology can be free to organize, just need to ensure communication between the NVR and network camera is smooth. In the use of the network, LAN2 needs to turn off the camera dedicated network.

Open network, the need to manually search for and add network cameras, see detailed operation quickly configure.

Open network topology shown in Figure 3-2

Figure 3-2 open network topology



4.1 Hard disk recommended

Given the current market of different brands, the uneven quality of the different models of hard, recommended to use Seagate or Western Digital brands which are designed for security/server applications offering 24x7 reliable operation.

4.2 Days recorded

Table 4-1 video storage time

| HDD capacity | Video stream | Cameras | Days recorded |
|--------------|---------------|---------|---------------|
| 4x4TB | D1 1.5Mbps | 16 | 60 |
| 4x4TB | 720p 3Mbps | 16 | 30 |
| 4x4TB | 1080p 4.5Mbps | 16 | 21 |

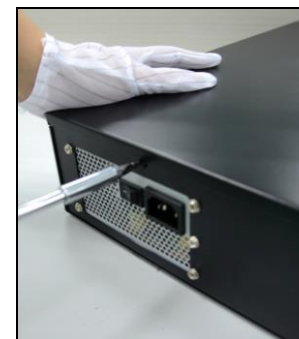
Suggestion: To use 4 hard disk for reduce the risk of loss

4.3 Installation

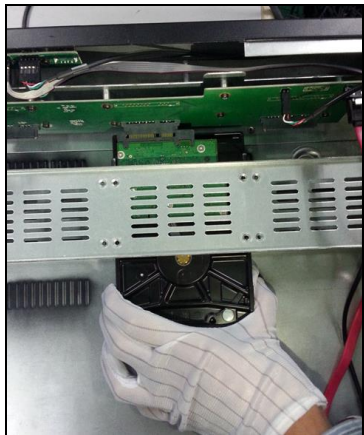
The hard specific installation steps are as follows:

Step 1 Take out screws of the cover and the cover, shown in Figure 4-2 specific operation.

Figure 4-2 to take out the cover



Step 2 Hard drive inset to the PCB SATA interface , shown in Figure 4-3
Figure 4-3



Step 3 Fixed screwss, shown in Figure 4-4 specific operation.
Figure 4-4 insert hard



4.4 Front panel description

Figure 4-5 shows the front panel of the Network Video recorders. Table 4-1 shows the description of front panel.

Figure 4-5 Front panel

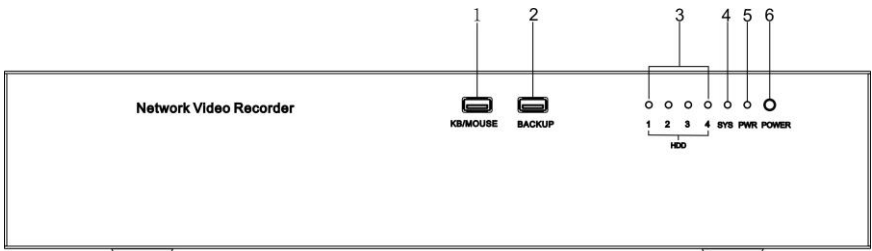


Table 4-1 Front panel description

| No. | Name | Description |
|-----|----------|--|
| 1 | KB/MOUSE | For connecting external mouse, keyboard |
| 2 | BACKUP | Back UP storage connect |
| 3 | HDD 1~4 | Hard driver working pilot lamp(Blue),hdd installed normal ON ,data R/W is flashing |
| 4 | SYS | Running is normal Red color |
| 5 | PWR | Running is normal Red color |
| 6 | POWER | Power ON/OFF key |

4.5 Rear panel description

Figure 4-6 shows the rear panel of the Network Video recorders. Table 4-2 shows the interface of rear panel.

Figure 4-6 Rear panel

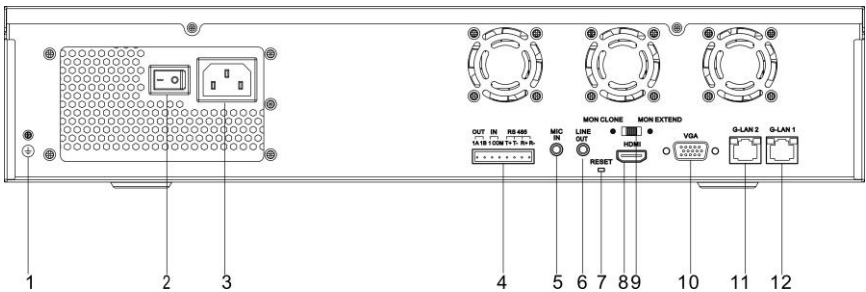
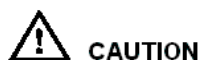


Table 4-2 Real panel description

| No. | Name | Description |
|-----|--------------------|---|
| 1 | Ground connector | Safety GND connect |
| 2 | Power | Power ON/OFF |
| 3 | Power interface | AC110/220V power in interface |
| 4 | OUT | 1ch Alarm Out |
| | IN | 1 ch Alarm In |
| | RS485 | 1 ch RS485 |
| 5 | Audio input | Line in |
| 6 | Audio Output | 3.5mm linear audio output |
| 7 | Reset | Press 5s to reset |
| 8 | HDMI | 1ch HDMI |
| 9 | HDMI && VGA switch | MON CLONE same display; MON EXTEND different display |
| 10 | VGA | 1ch VGA |
| 11 | G-LAN2 | RJ45 10/100/1000Mbps |
| 12 | G-LAN1 | RJ45 10/100/1000Mbps |

4.6 First boot



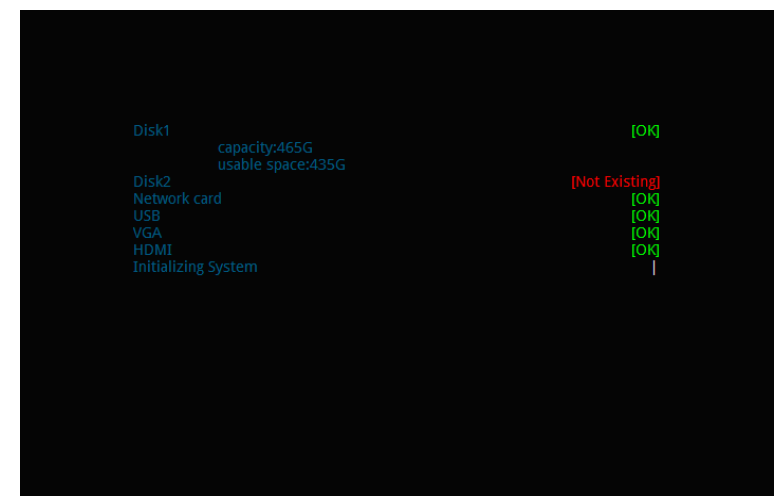
CAUTION

- Make sure that the right of access to power NVR.
- Ensure correct display HDMI or VGA interface connection is set from switch

If the front panel of the power indicator lamp does not flash please plug in the power cable .Enable the power switch, NVR start running. If the front panel power indicator lamp flashing Red light, please put the switch at front panel to start device. Note:

After the device starts, the power light is solid red device starts after the self-test, and the test results are displayed on the screen. Show in Figure 4-7. Entire boot process takes about two minutes.

Figure 4-7 Device power on



When an exception occurs when the device self-test, this interface will stay in the lower right of the screen, you can choose to continue or shutdown. If you choose to continue, the device will continue to start, until the device login screen is shown.



NOTE

NVR hard drive has rigorous testing, if fails, the reasons may include the following:

- Unformatted new hard disk. Go to quickly configure the hard disk is formatted.
- Formatted hard drive, the NVR supported file systems do not match.
- Hard disk is damaged.

4.7 Shutdown

If the equipment is not load, long press the PWR button on the front panel for more than three seconds, the device will shut down, solid red becomes off after a successfully shut down.

CAUTION


- Shutdown process, the system prompts are off, do not cut off the power.
 - Equipment running directly through the rear panel power off switch, cut off the power or unplug the power cord should be avoided.
 - In some circumstances, the power supply is not normal, will lead to the NVR not to work properly, serious damage can occur to the NVR. In this environment, it is recommended to use regulated power supply, or a backup AC source.
-
- If the device is logged into the main interface, you can click the top right  Button or long press the PWR button on the front panel for more than three seconds will bring up the shutdown interface, shown in Figure 4-8 Interface.

Figure 4-8 Shutdown interface



4.8 Displayer resolution adjustment

NVR support resolutions with VGA 1024*768, VGA 1280*1024, VGA1600*1200, HDMI720P, HDMI1080P, you can select the proper resolution according your displayer.

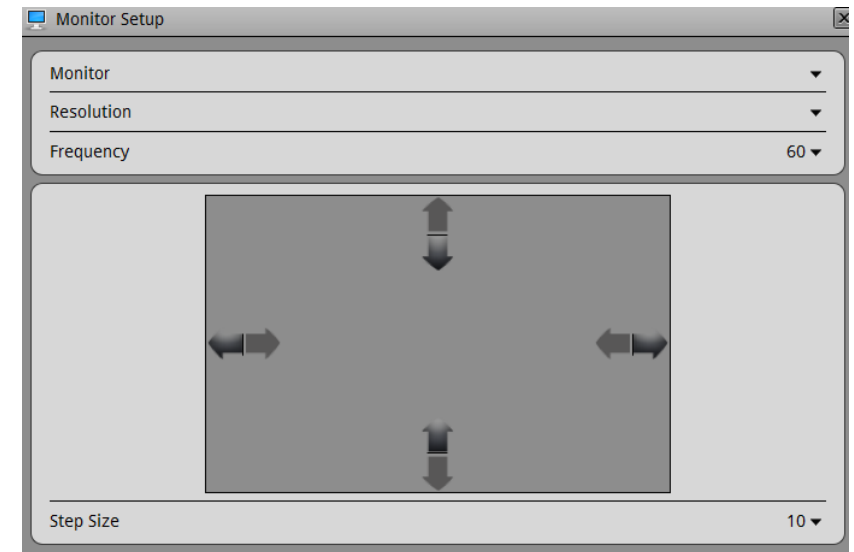
NOTE

For display using VGA set to 1024*768 or VGA 1280*1024. When using HDMI input we advise to use HDMI 1080P.

Adjustment Steps:

Step 1 Click Change on login interface and find the adjustment interface shown in Figure 4-9.

Figure 4-9 Adjust displayer




Step 2 Choose the type of resolution in the resolution of the drop-down box.

Device will automatically switch to the selected resolution and show the dialog for Yes or Cancel.

- If no operate in 10 seconds, displayer will back to previous resolution.
- If select Yes then will switch to the selected resolution.
- If select **cancel** display will not save the configuration and back to previous resolution.

Step 3 Adjust display.


NOTE

If displayer couldn't show the full screen (at the corners can't see ) then we need to adjust the displayer (we advise to auto adjust first)

1. Click Adjustment button at lower right corner.
2. In the step of the drop-down box to choose the adjustment step.

Step: The moving distance when adjust screen each times, the greater number the more moving distance, you can select the larger step sizes to adjust sketchy, and then select the smaller step tuning.

3. Use UP, DOWN, LEFTRIGHT button to adjust the screen.

Step 4 Click the configuration interface  to close.

Exist displayer interface

Back to Login interface

4.9 Add Network cameras

This NVR allow to connect maximum 16 pcs network cameras.

CAUTION

- NVR maximum support to connect 16 pcs 5MP/3MP/1080P/720P/D1 resolution
 - When Add HD IP camera, it can be added by reduction the number of channel or the camera baud rate.
 - Detail Specifications please refer to 2 Specifications
-

Add Network camera

Method1: Add the camera by manually.

NOTE

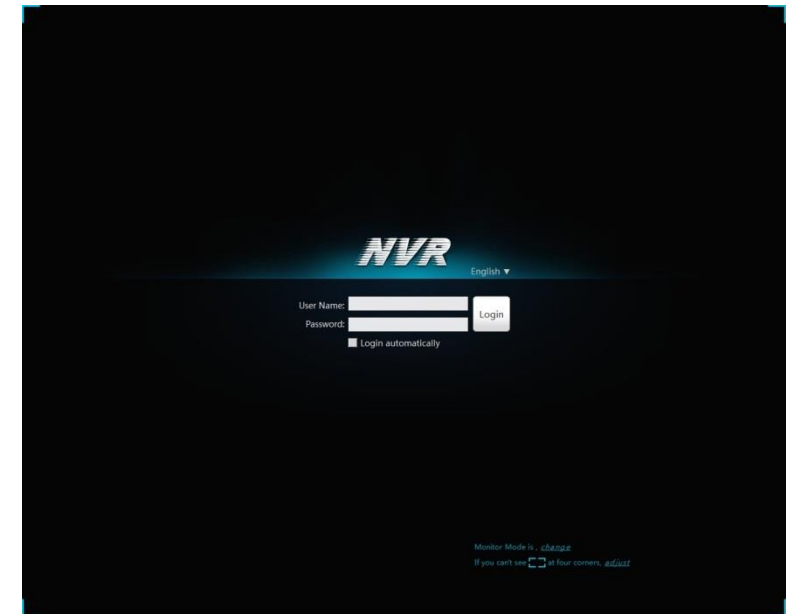
Discover the network camera we can discover by broad cast, IP segment search, and pointed IP search. Network camera have to be pointed IP first and stay with a same sub network segment.

4.10 Login

Login to the equipment using the following steps:

Step 1 In the login screen shown in Figure 4-10, enter a user name, password.

Figure 4-10 Login screen



Step 2 Click Login.

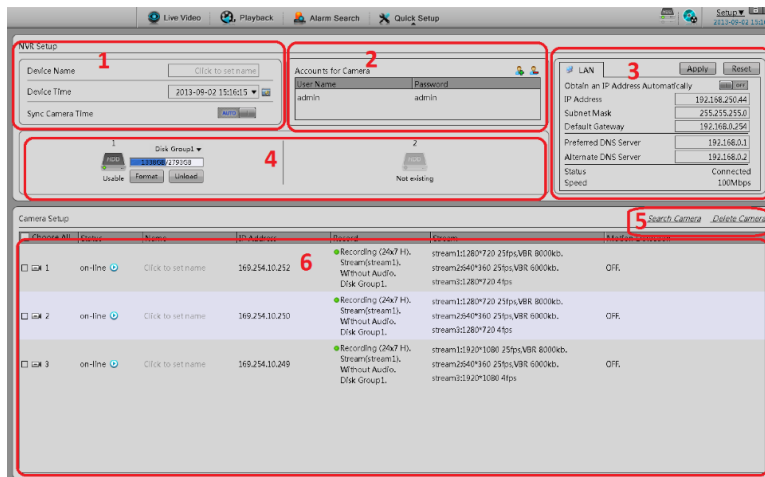
Enter the main interface.

5 Quick configuration

Quickly configure some common functions together to facilitate the configuration management of the NVR. It provides:

The NVR network configuration, disk management, date and time configuration, the search network camera, video configuration; fast configuration of the features of the camera network configuration stream configuration, motion detection configuration. Enter the rapid configuration interface, as shown in Figure 4-11

Figure 4-11 Fast configuration interface



The rapid configuration interface description.

Area 1: NVR Basic information and time synchronization functions.

- NVR Basic information configuration.
The NVR can set the name, date and time.
- Synchronization time of the network cameras. You can select the manual mode or automatic mode.

When the manual mode is selected, click Button for time synchronization. Select automatic synchronization mode, time synchronization automatically by NVR, this means all cameras will have internal times set to match NVR time.

Area 2: Manage cameras certification account.

CAUTION

Can only certification through the camera to normal use, be sure to add the correct camera certification before adding the camera, the camera certification account list of account numbers and passwords, this is not same as NVR account users.

Certification account used to log on to the network cameras, for search network camera login authentication. Only certified network cameras can be added to NVR system.

- Systems have a default account admin password admin; you can click Icon to add a network camera certification account.
- Click to select account to be deleted from list.

Area 3: NVR network configuration.

- NVR default factory IP address: LAN1:192.168.0.121; LAN2:192.168.1.121
- The basic network configuration can configure the IP address, subnet mask, default gateway, DNS address and other parameters. Real-time display of the network connection status and speed. 8.1.5 Network specific parameters, see "Network Video Recorder User Manual."
- Network support the cameras dedicated network function, factory default enables this feature.

NOTE

The Camera network is the only network cameras and NVR, there is no other network equipment network.

Area 4: Hard disk management.

CAUTION

- Format the hard disk will cause video loss, please use this feature with caution.
- Power until off to remove the hard drive, use the software to control this process as below otherwise it may cause damage to the hard disk recordings.

Hard disk management for hard disk management NVR:

- Format hard disk. Click the Format button, pop-up prompts, choose to format. Capacity. Note: 4T formatted hard disk takes about 10 minutes to complete.
- Load or unload HDD. Please uninstall the need to pull out the hard disk.
- Modify hard disk group.
- (Normal, abnormal, unformatted drive or does not exist) to view the status of the disk.

- View the disk space and the total space.

Area 5: Select Network Camera

NVR will automatically search for the network cameras.

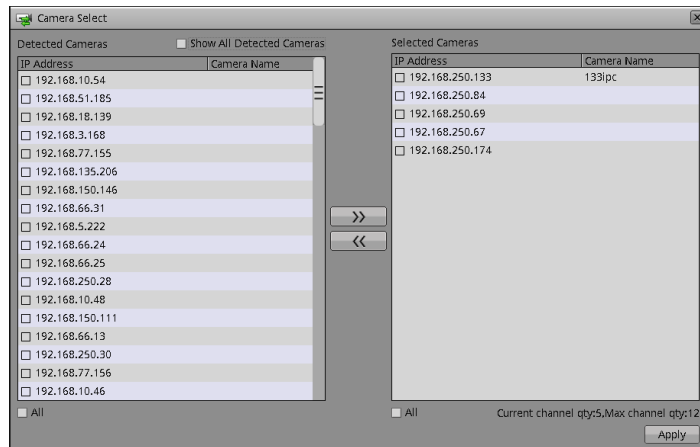
- When the number of network cameras is not more than 16 units, NVR automatically add the management list.
- When the number of network cameras of more than 16 units, NVR automatically randomly add 16 units to manage, and prompted a warning, as shown in Figure 4-12.

Figure 4-12 Device Discovery Tips

Detect 92 cameras at latest , Ignore or Select

You must on the NVR management of equipment selection, click ignore NVR management network camera, click, pop-up camera selection screen shown in Figure 4-13.

Figure 4-13 Device Discovery Tips



Click the Apply button to complete the network camera selection.

Area 6: Configure network camera.

You can view the status of the network camera, set the name of the network cameras, IP address, video strategy, stream parameters, and motion detection parameters.

- View the status of network cameras, status: online, not online, account errors.

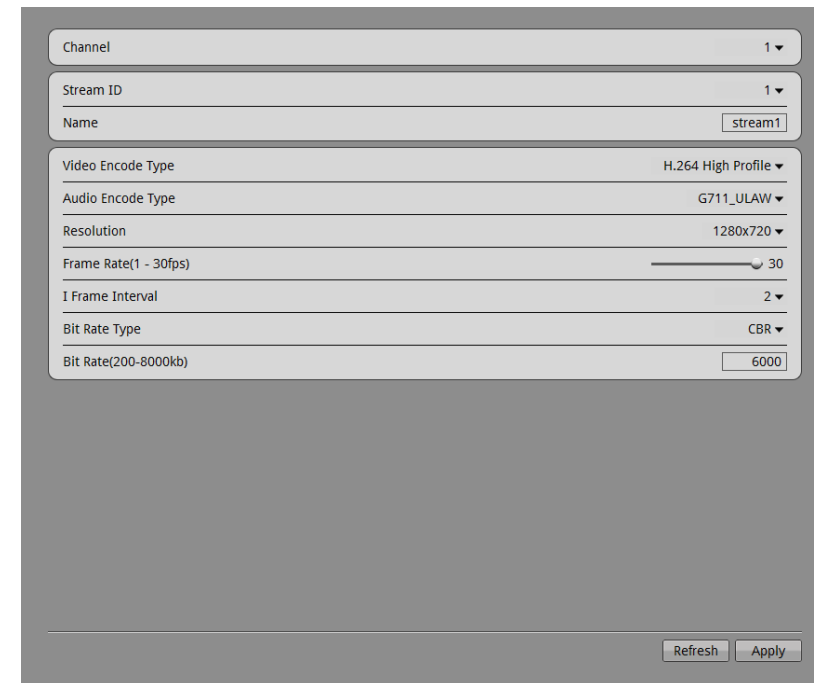
Online equipment, you can click  Real-time video preview.

- Modify the name of the network camera.

Enter the desired name of the device corresponds to the name of the bar, you can modify the name of the camera.

- Modify the IP address of Network Camera.
4. Click to modify the IP address, network cameras IP Settings dialog box pops up
 5. Set the network camera IP specific operation methods and procedures, see the "Network Video Recorder User Manual in 8.1.5 Network.
- Set video strategy.
1. Video strategy information, click on the desired modifications configuration dialog pop-up video strategy;
 2. Specific methods of operation and the steps set video strategy see 8.1.7 Video Network Video Recorder User Manual.
- Set the device stream.
3. Click stream information required to modify the pop-up the stream configuration dialog box shown in Figure 4-14 will show.

Figure 4-14 stream quick configurations



4. Applied to all of the same device switch stream is set to open, click the Apply button will automatically set the current parameter to all devices with the same resolution parameters.

- Set to detect alarm.

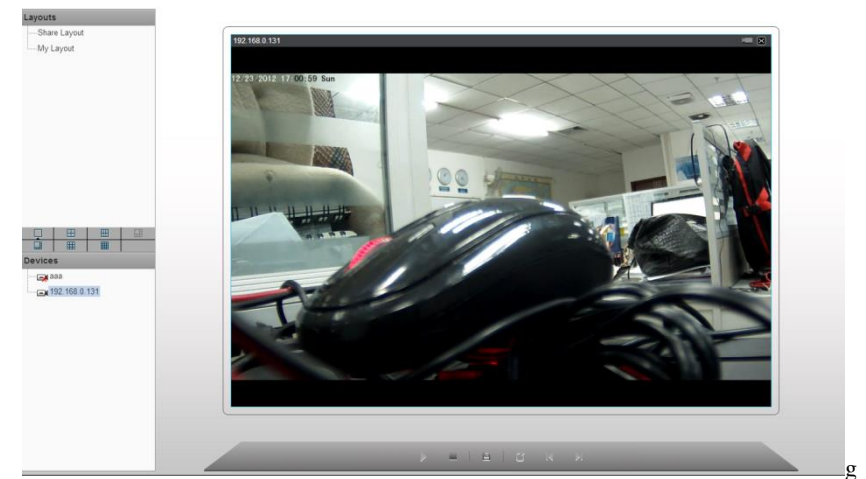
5. Click the desired modification motion detection, motion detection alarm dialog pops up.
6. If the motion detection alarm, you must set the arming time and detection area.

6 Live video

Input the username and password, click login.

Enter the live video interface, which looks like Figure 4-15.

Figure 4-15 Live video interface



In the live video interface, you can select the camera from the left list to the live video channel to do the below operates:

- Live video
- Alarm log tracking
- Monitor the recording status
- PTZ Control
- Audio monitor
- Full screen automatically
- Video mark
- Sensor configuration

Decoding ability

This system decoding ability is 6 channels D1 or 1 channel 720p or 1 channel 1080p. If it is over loaded, then it will print out “Decoding ability not enough” on the screen showing area.

Intelligent adaptive mechanism of stream frame rates








This system provides the intelligent adaptive mechanism of stream frame rates.








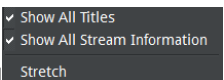

When you are selecting the camera to watch the live video, the system will select the suitable stream according to system’s own decoding ability and live video windows. Always make the system working with best performance.

If you need to change the streams manually, you need right click the screen to call the menu, then we will be able to see all the available streams in current camera. And after we switched the streams, by the bottom line of the live video window we will see the stream information.




Live video interface introduction as Figure 4-15.

Table 4-3 Live video interface introduction


| Items | Name | Content |
|-------|-------------------|---|
| 1 | Top menu | <p>Click Live video, Recording playback, Alarm search and Quick setup to enter the responding interface.</p> <p>Click  icon to check the HDD information.</p> <p>Click  icon to enter the recording backup interface.</p> <p>Click  icon to lock the interface.</p> |
| 2 | Channel Layout | <p>When you are watching the live video, we can select the 1 screen, you can select 1 display, four display, six display layout and other layout mode. After we selected the layout mode, we can move the camera from the left list to the layout screen, then click save button to save the layout. There exist two option ”Shared layout” ”May layout”, this system also support ”Wheel guard” mode, we can configure the wheel guard mode in system management and live video layout.</p> |
| 3 | Camera List | <p>In the camera list it listed all the cameras in the system.  means normal,  means offline,  means unverified.(username or password is not correct)</p> |
| 4 | Alarm information | <p>In this area will display the alarm information include motion detection and I/O input alarm. This information area will only display recently latest 20 alarm information. Click  to clear the information.</p> |

| Items | Name | Content |
|-------|-------------|---|
| 5 | Bottom menu | <p>Click  ,  and  icon, we can try to hide or display the layout list, alarm list and alarm information.</p> <p> : Play live video button.</p> <p> : Close live video button.</p> <p> : Mark tag button, you can mark the tag during the live video, it will helps to track the video fragment in recording playback.</p> <p> : Click this button will call  , we can select which one want to display according to the requirement.</p> <p> : PTZ menu button, click will call the PTZ control menu.</p> |
| 6 | Live video | <p>Display the live video, and configure the sensor settings. If you need to change the streams manually, we can right click the menu, it will list out all the streams which is available for current device. After we selected one of them, it will also display the stream information at the bottom side.</p> |

Full screen automatically

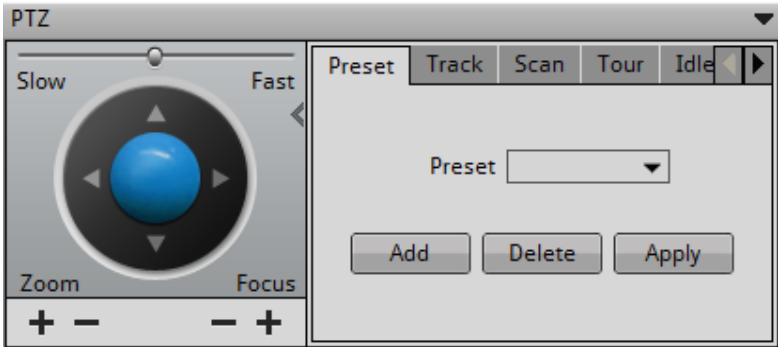
Click  button, it will be available to choose whether enable the full screen function, also the time delay for full screen showing. When this function is enabled, if we didn’t do any actions during the delay time period, then it will go to the full screen mode immediately. When it is in full screen mode, after you moved the mice to the bottom line it will give out the tool bar, click the icon  in tool bar we can exit the full screen mode. Then you click  can go to the full screen mode manually again.

PTZ control

Click  button, call the PTZ control menu, as Figure 4-16 showing. In this interface you can adjust pan, zoom, preset, trajectory, scanning, infrared light, north, timer settings etc.


7 Playback


Figure 4-16 PTZ Control menu



NOTE

PTZ Control menu only can be cooperate with IPS Dome and Ext PTZ platform.

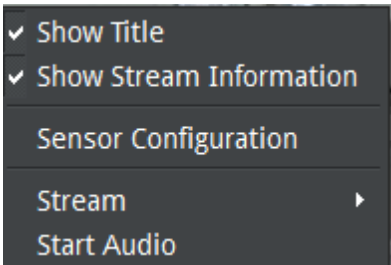
Click  button to close the PTZ configuration menu.

Click  button to exit the PTZ control menu.

Live video fast operation

Right lick mice to call Figure 4-17 interface, call the menu “Showing title, Showing stream info, Enable audio, Stream switch, Sensor configuration etc.”

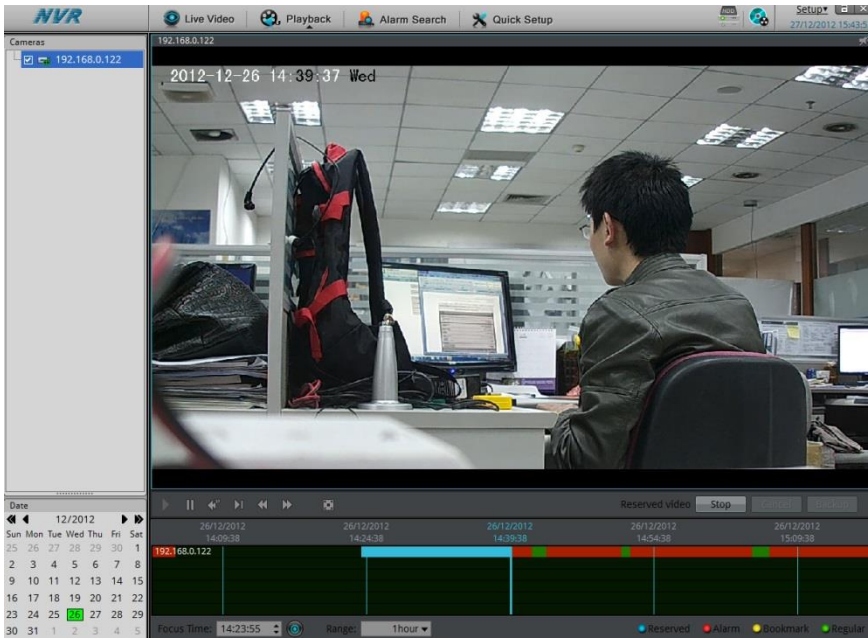
Figure 4-17 Live video monitor menu



7.1 Recording playback

Recording playback will play back the video which is recorded in local HD. Like Figure 4-18 showing.

Figure 4-18 Local playback





Playback operations steps.

Step 3 Choose the camera which you want to playback.

Click one from the list at left side, icon  means this camera has been selected, icon  means camera has not been selected.

Step 4 . Date selection.

Step 5 Recording show.

Focus Time: 16:07:27  

Range: 1 hour ▼


When 1 hour is selected, then the time period between two blue tagging means 1 hour.

Step 6 Playing Playback

Figure 4-19 Control tool bar



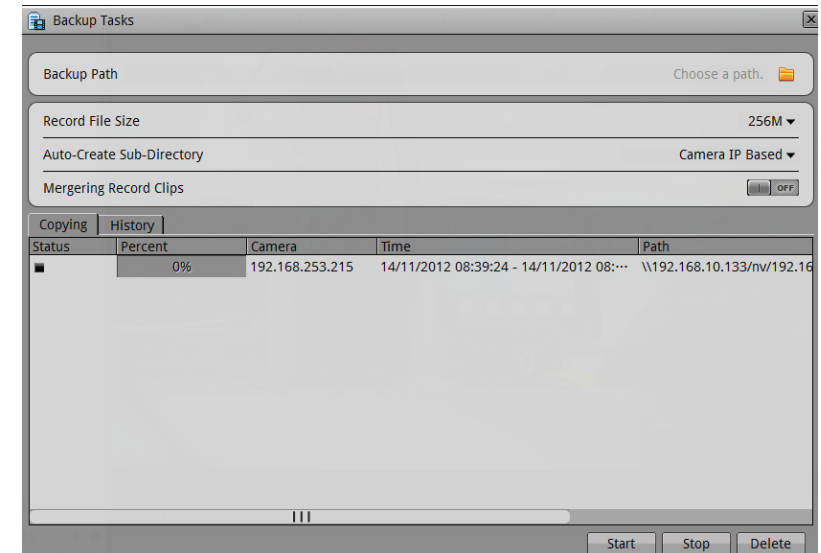
 **NOTE**

During the playback, you can try to move the mice to control the playback processes, click  to switch to the full screen mode.

7.2 Recording backup

Step 7 Configure the backup path.

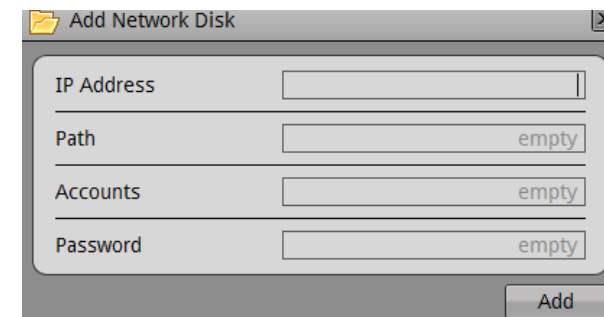
Figure 4-20 Backup path browser



- Network storage device

7. Double click the Add network disc, or right click the menu to call the Add network disc interface. Like Figure 4-21.

Figure 4-21 Add network disc



8. Input the IP address, path, account and password, click Add button.
9. Check the network disc status. The status list: OK, connect fail, unavailable. Only when status is OK it means the network disc can be used for backup normally.

10. Double click go into the network disc path list, select the backup path, click ok button save and exit.

- USB Storage device

1. Insert U disk or removable HDD to the USB interface.
2. NVR will detect the USB storage device automatically, after detected successfully, it will showing USB storage device.
3. Right click menu to select unmounts or formatting options on the U disk.
4. Double click into the USB storage device path list, select the backup path, click OK button and exit.

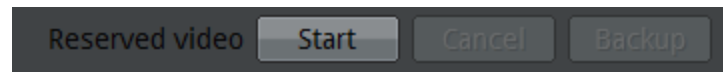
Step 8 Configure the backup file options.

- Backup file large size, we can define the maximum size of individual file.
- Create the subdirectories, can be specified create the directories based on the network cameras IP or ID.
- Whether to combine video clip, you can specify whether to make two discontinuous video merged into one file.

Step 9 Select backup recording

Method one: We can select the recording and backup during the playback processes. Recording backup control bar as Figure 4-22 showing:

Figure 4-22 Recording backup control bar








11. Click the Start button to start selecting the recording segment.
12. Select the recorded files, keep pressing mice left button move to left or right side to high light the files which you want to make the backup.
13. Click Stop button to stop the selection. (You can also click cancel button to cancel the current selected video segment.)

Click backup to start the recorded files backup.

Method two: In alarm searching, when we are playing the playback alarm triggered video, we can click backup to make the backup files.

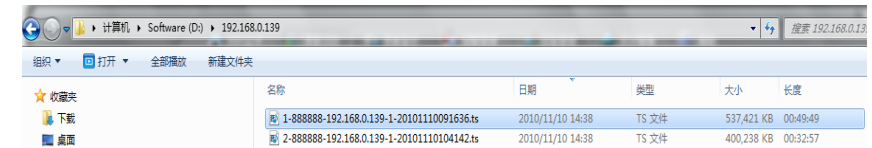
Step 10 View backup file progress

You can check the backup status in backup interface,  means backup is in processing,  means wait for backup,  means backup stopped,  means backup failed,  means backup finished.

Step 11 Backup file searching

Enter the backup directory folder, you can check all the backup files like
Enter the backup path folder to check the backup files. Like Figure 4-23.

Figure 4-23 File search



8 Alarm searching

In alarm searching interface we can search the alarm recording.

Operation steps

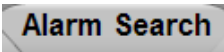

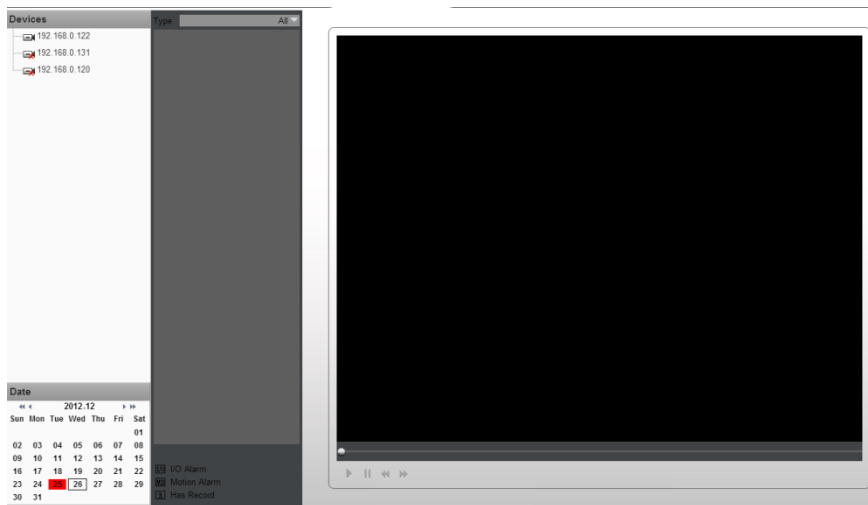





- Step 12** Click  button enter into the alarm management interface like Figure 4-24 showing.
- Step 13** You can select the camera which you want to search the alarm information from left list.  Means this camera have alarm information.
- Step 14** We can select the alarm type at the Type drop-down menu.

Figure 4-24 Alarm searching interface.



- Step 15** Date selections.
You can choose the date period which you want to search in the calendar area.
Click ,  to switch the month, click ,  to switch month.  Means the date which has been selected. If it is red color then it means in that day it have the alarm trigger recording.

- Step 16** Recording show.

After we selected the device and date, we can try to play the alarm recording files below type area.

- Step 17** Alarm triggers recording play.

Select the alarm trigger recording files, click  button to start playing.

- Step 18** Alarm recording backup

Select the recorded files and click backup button to make backup files.

9 Setup

Setup includes NVR setup and camera setup. NVR setup for NVR configure and camera setup for cameras configure.

9.1 NVR setup

Click **NVR setup** in upper right to enter the NVR configure interface show in Figure 4-25.

Figure 4-25 NVR setup

The screenshot shows the 'NVR Setup' window with a sidebar on the left containing options: Device Information, Device Management, Network, CMS Register Info, Live Video Layout, Date and time, Record, Accounts, and System Warning. The main area is titled 'Device Info' and contains several fields:

- Device ID: FB2024
- Device Name: robbei
- Device Type: NVR
- Manufacturer ID: 001
- Manufacturer Name: Sunell
- Hardware Version: V500_1
- Software Version: v1.0_build0080017
- Channel Qty: 16
- Disk Qty: 4

A 'Refresh' button is located at the bottom right of the Device Info section.

9.1.1 Device information

When enter NVR setup interface, we can see the system information show in Figure 4-25 .

Device information includes:

- Device ID
- Device Name
- Manufacturer ID
- Manufacturer Name

- Hardware Version
- Channel Qty
- Disk Qty



NOTE

- Only Device Name can be edit, other parameters can't be edit.
- When device update the device info will auto update as well and will keep same step with the software version.

9.1.2 Device Management

User and search, add, delete cameras through device management.

Select NVR setup->Device Management,

Enter the camera management interface, like Figure 4-26 showing; it will list all the cameras which has been connected with NVR, and also some basic information of them.

Figure 4-26 Device Management interface

The screenshot shows the 'Camera Search' window. It has a top section with 'IP Address Segment Add' and 'Manual Add' buttons. Below this is a table titled 'Accounts for Camera' with columns 'User Name' and 'Password'. The table contains two entries: 'admin' with password 'admin' and 'testnvr' with password 'Admin123'. Below the accounts table is a 'Search Results' section with a checkbox 'Show Managed Cameras'. The search results table has columns: IP Address, Name, User Name, Password, and Status. It lists 14 IP addresses, all with a status of 'Authorizing failed'.

| IP Address | Name | User Name | Password | Status |
|-----------------|------|-----------|----------|---------------------|
| 192.168.10.54 | | | | Authorizing failed |
| 192.168.241.203 | | testnvr | Admin123 | Authorizing succeed |
| 192.168.8.124 | | | | Authorizing failed |
| 192.168.66.18 | | | | Authorizing failed |
| 192.168.77.156 | | | | Authorizing failed |
| 192.168.66.17 | | | | Authorizing failed |
| 192.168.66.30 | | | | Authorizing failed |
| 192.168.51.105 | | | | Authorizing failed |
| 192.168.10.55 | | | | Authorizing failed |
| 192.168.22.8 | | | | Authorizing failed |
| 192.168.88.173 | | | | Authorizing failed |
| 192.168.5.121 | | | | Authorizing failed |
| 192.168.51.175 | | | | Authorizing failed |

Search and add cameras.

The steps of search and add cameras like below:

Step 19 Click the add button to call the camera searching interface like Figure 4-26 .

Step 20 Add the cameras according to the IP segment or something specific.

- Add IP address

14. Click Add button in IP address, to call the IP adding interface as Figure 4-27.

Figure 4-27 Add IP section.

| | Begin IP | End IP | Port |
|---|---------------|---------------|-------|
| 1 | 192.168.0.120 | 192.168.0.150 | 30001 |

Begin IP: End IP: Port:

15. Input the Begin IP address and End IP address and Port number.
16. Click Apply to finish the operation.
17. This system will search the IP cameras in such an IP segment automatically, and display the searching result below.
 - Add manually
18. Click button, to call the add cameras interface like Figure 4-28 showing.

Figure 4-28 Add cameras manually

IP:

Port:

19. Input the IP address and Port number.
20. Click OK button to finish the operation.
21. If such camera is available, then the adding result will display below.

- Step 21** Click button to call the interface as Figure 4-29.

Figure 4-29 Add camera management

| New Devices | | Managed Devices | |
|--------------------------|-----------|-----------------|--|
| | Device IP | Device Name | |
| <input type="checkbox"/> | 1 | 192.168.0.122 | |
| <input type="checkbox"/> | 2 | 192.168.0.131 | |
| <input type="checkbox"/> | 3 | 192.168.0.120 | |

- Step 22** Select the cameras which you want to add from the left part list click to finish the operation. Click.

To cancel the adding operation.

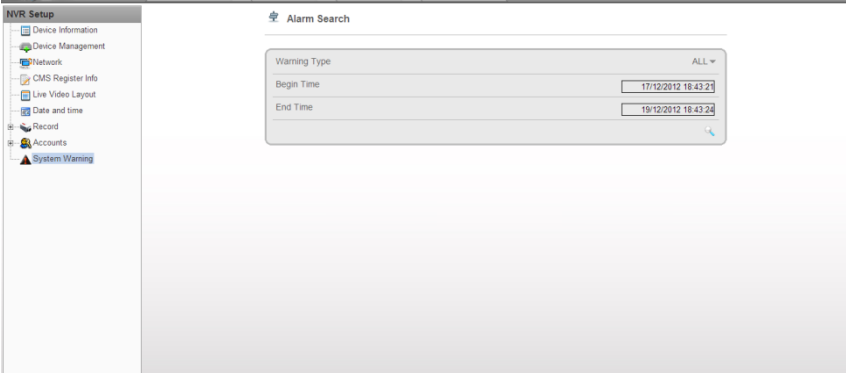
Click OK button to finish the operation.

9.1.3 System alarming


Select Setup>System warning> system warning

Enter the system warning like Figure 4-30 showing.

Figure 4-30 System warning information.



Warning information searching steps.

- Step 23** Select the warning type (Disk Alarm, Record Alarm, All).
- Step 24** Input searching Begin Time and End Time.
- Step 25** Click searching button , then the searching result will be displayed below.
-

9.1.4 Network

You can check the Camera DHCP IP address, configure IP address, subnet mask, gateway address, First NDS, backup NDS.

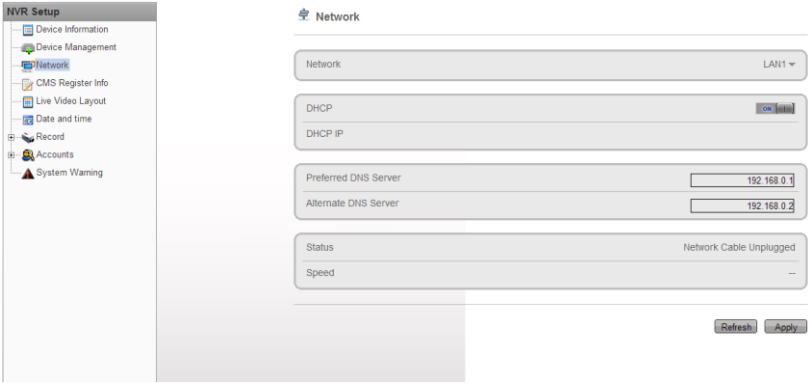
CAUTION

If set the camera in LAN network, please don't let any cameras' IP address conflict with other computers.

Operates steps


- Step 26** choose configure > system configure > network
- Enter the network configuration interface like Figure 4-31 showing.

Figure 4-31 Network interface



- Step 27** Configure the network parameters, reference the Table 4-4.

Table 4-4 Network parameters

| Items | Introduction | How to configure |
|-------------------------------|---|--|
| Get IP address automatic ally | It will get the IP address from DHCP server automatically. | Switch DHCP to on by this button  . |
| IP Address | Camera IP address, it can configure the IP address depends on real situation. | Default IP is 192.168.0.121 |
| Subnet mask | Configure the subnet mask | Default address is 255.255.255.0 |
| Gateway | Input if needed | Default is 192.168.0.1 |
| DNS | Configure the DNS server address | Default is 192.168.0.1 |

- Step 28** Click to application
- Call the Apply successfully; click OK to finish the network parameters configuration.
 - If pop up other windows, then please confirm the parameters are all correct and configure again.

9.1.5 Live video layout

You can configure the live video layout in order to call the live video quickly.

Live video layout can do below operations:

- Create new layout
- View current layout

- Edit current layout

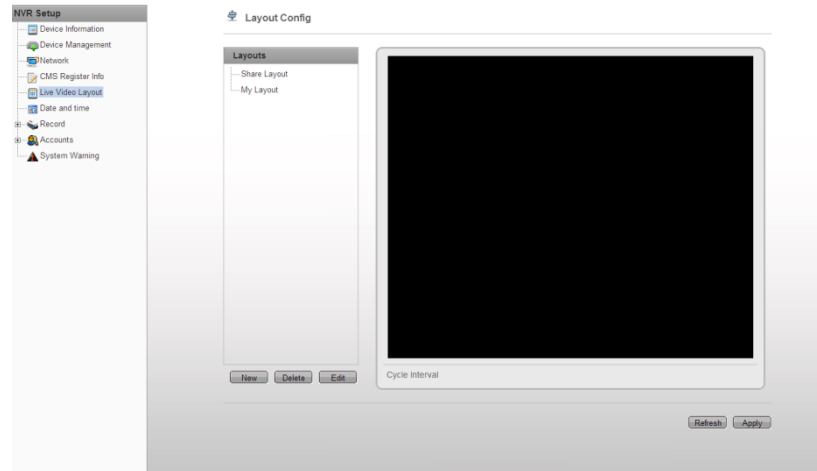
Create New layout

The steps to create new layout below:

Step 29 NVR Setup> Live Video Layout

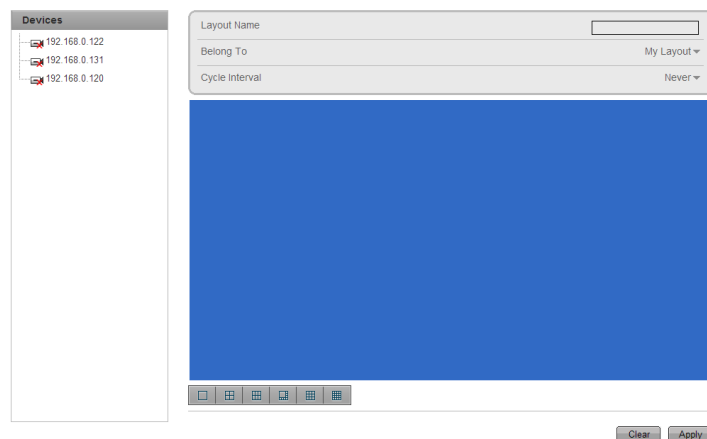
Enter the live video layout like Figure 4-32.

Figure 4-32 Live video layout



Step 30 Click Net to call the new layout like Figure 4-33.

Figure 4-33 New layout



Step 31 Input the New layout name

Step 32 Configure the New layout position, you can select the Shared layout or my layout.



NOTE

Shared layout means the layout for all the users.

May layout means the layout for current login user only.

Shared layout only can be created by authorized users.

Step 33 Configure to enable the wheel guard or not. Wheel guard time interval could be set as 5s, 10s, 30s, and 60s.

Step 34 Choose the screen split settings.



From left to right are single frame, 4 frames, 6 frames and 1+5 frames. You can choose one of them.

Step 35 Use the Mic left click to select the camera from the list and move to the live video layout.

Step 36 Click “Apply” to finish and save the configuration. If it call the window to warn you the name can’t be none, then please input the layout name.

-

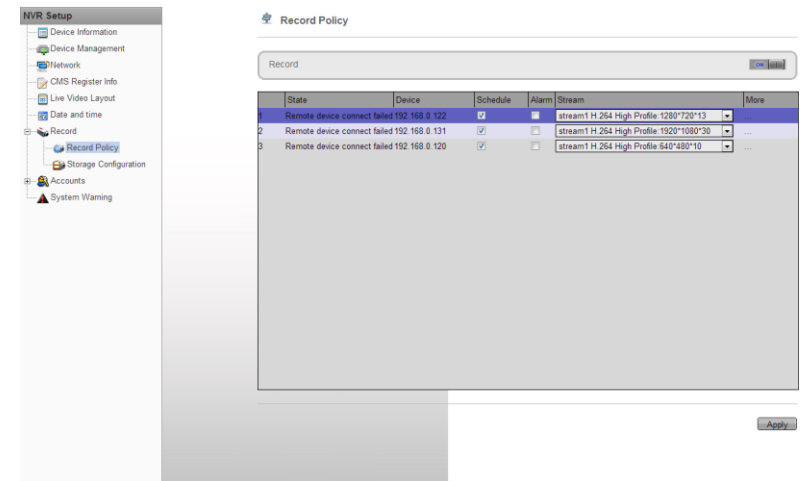
9.1.6 Recording

You can configure the Recording by Schedule, Alarm recording, recording quality, and Recording Policy.

Step 37 Choose Setup> Record> Record Policy.

Enter the Record Policy like Figure 4-34.

Figure 4-34 Record Policy



Step 38 Enable the record  (Enable as Default)

Step 39 Please select “√” on the cameras which you want to record, and also select the corresponding streams parameters.

Step 40 Click to More

Call the record policy configuration interface like Figure 4-35.

Figure 8-11 Record Policy Configuration

Figure 4-35 Schedule record configuration interface.

Week
☐ Sunday
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☐ Saturday
☒ ALL

Begin Time
End Time

DeleteAdd


| Week | Begin Time | End Time |
|------|------------|----------|
| ALL | | |

CancelApply

Step 41 Configure Record Policy

Configure 7*24H and Record by Schedule two policies.

If select record by schedule, we need to configure the schedule plan. Steps as below

22. Click , enter into the schedule record configure interface, like Figure 4-36.

23. Configure the schedule for recording.

24. Click Apply to save.

Figure 4-36 Schedule record configuration

Schedule Time Configuration

☒ Week
 ☒ Sun
 ☒ Mon
 ☒ Tue
 ☒ Wed
 ☒ Thu
 ☒ Fri
 ☒ Sat
 ☒ All

Begin Time: 00:00 ▼

End Time: 24:00 ▼


| ID | Week | Begin Time | End Time |
|----------------------------|-----------|------------|----------|
| <input type="checkbox"/> 1 | Sunday | 00:00 | 24:00 |
| <input type="checkbox"/> 2 | Monday | 00:00 | 24:00 |
| <input type="checkbox"/> 3 | Tuesday | 00:00 | 24:00 |
| <input type="checkbox"/> 4 | Wednesday | 00:00 | 24:00 |
| <input type="checkbox"/> 5 | Thursday | 00:00 | 24:00 |
| <input type="checkbox"/> 6 | Friday | 00:00 | 24:00 |
| <input type="checkbox"/> 7 | Saturday | 00:00 | 24:00 |

☐ All

Step 42 Whether to enable the alarm record

- If not want to enable the alarm record, then just set the button to OFF.
- If want to enable the alarm record, then set the button to ON.

Step 43 Whether to enable the audio

| | |
|---|---|
| Record Audio |  OFF |
| Disk Group | 1 ▾ |
| Record Rule | Circle store while full ▾ |
| Stream ID | stream1 ▾ |
| Video Encode TypeH.264 High ProfileAudio Encode TypeG.711UResolution1280*720 Frame Rate/frs13frl Frame Interval2Bit Data Tune CRBBit Data/kbps6000Quality5 | |

Step 44 Configure the Storage Policy

Storage Policy you can select:

- When HDD is full, record cycle.
- Retention day time.

Step 45 Configure the HDD disk group.

There will be 2 HDD disk groups. We can set the recording to be recorded into two different HDD disk groups.

Step 46 Configure the record streams bit rates.

Step 47 Click Apply to save the configurations and exit the record policy interface.

9.1.7 Storage policy

In storage policy interface, you can do the following operates:

- Check the current HDD status.
- Check the HDD information details; include HDD capacity, free space.
- Unload and Format operates.

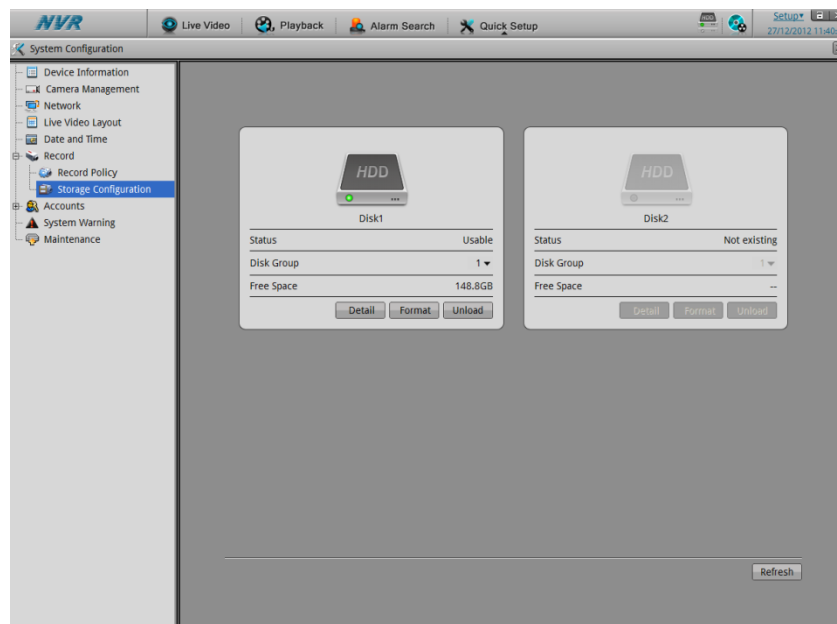
NOTE

Firstly using HDD need to format first otherwise the recording file cannot be written into the HDD.

Select System configuration>Record>Storage Configuration.

Enter the Storage Configuration, like Figure 4-37 showing.

Figure 4-37 Storage Configurations



NOTE

To protect the HDD, before you plug out the HDD, you have to unload the HDD firstly.

9.1.8 Account Management

Privilege group setting

User's basic privilege includes:

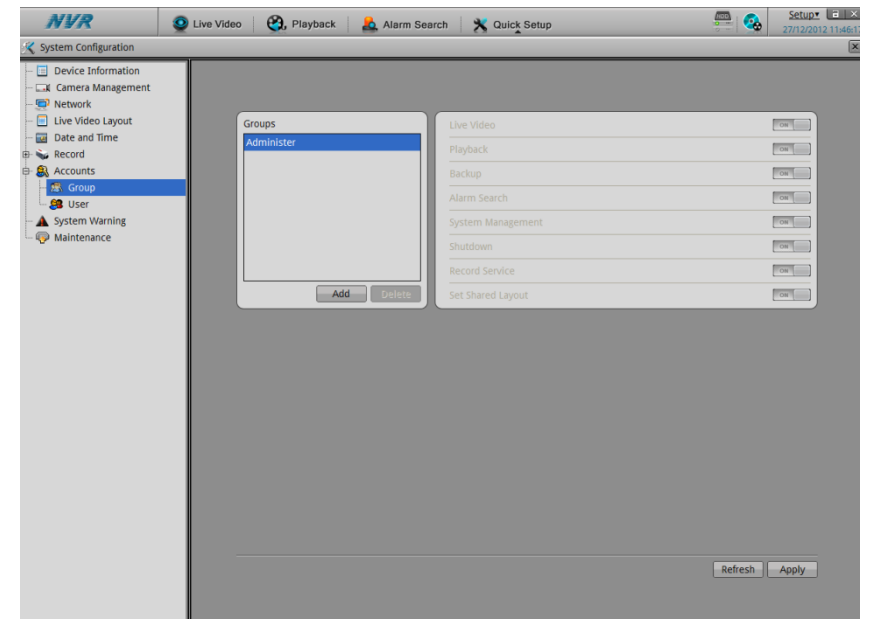
- Live video
- Playback

- Backup
- Alarm search
- System Management
- Shutdown
- Record service
- Set shared layout

Step 48 Accounts>Group

Enter the Group configuration interface, like Figure 4-38.

Figure 4-38 Group configuration interface



Step 49 Add and Delete Groups

- Add privilege group.

25. Click Add

Call the Add Group interface.

26. Input Group Name.

27. Click OK.

Finished adding, return to the original interface.

28. Select the groups which are added, and select the privileges which they can have.

29. Click Apply to finish the adding.

- Delete Privilege group.

30. Click Delete to call the Delete Privileges Group interface.

31. Click yes to return to the original interface.
32. Click Apply to finish the operation.

NOTE

System default privilege group is Administrators, which cannot be deleted and modified.

User setting

You can add and delete users, the users which have the privilege of system configuration can unlock the system which may be locked by serial login with incorrect password.

Step 50 System configuration>Account>User

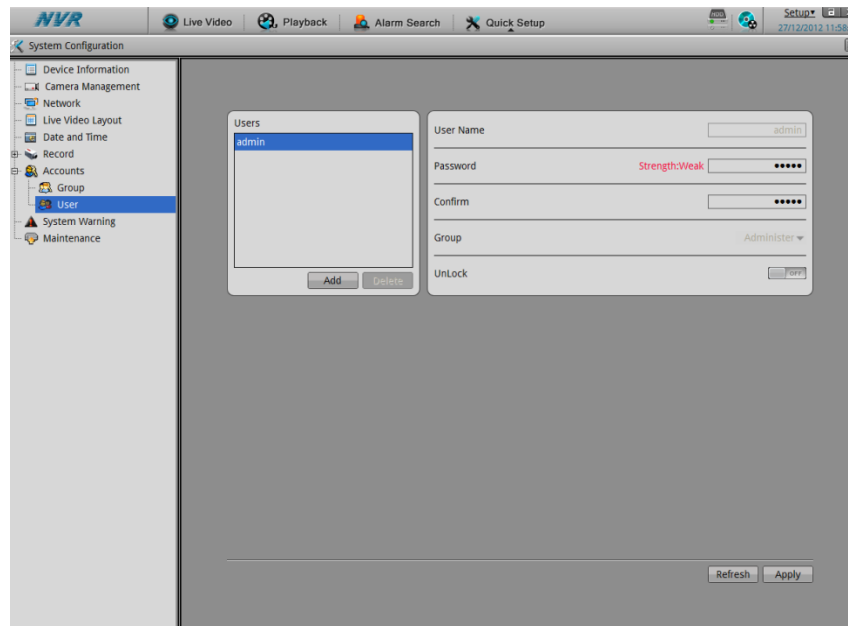
Enter the user interface like Figure 4-39 showing.

Step 51 Add, Delete user.

- Add user
33. Click add to call the add user interface.
 34. Input the user name.
 35. Click OK button.

Finish the adding user, return to the previous interface.

Figure 4-39 User configurations



36. Configure the user password and privilege group.

37. Click Apply to finish the user adding configuration.

- Delete user.

38. Click delete to call the delete user interface.

39. Click yes to return the previous interface.

40. Click Apply to finish the user operates.

Unlock the locked user

When login to the system, if the user input the wrong password more than 3 times, then the system will lock the user, but only the administrator can unlock the users.

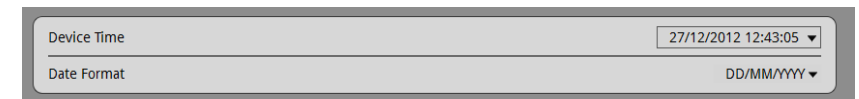
9.1.9 Date and Time Configuration

You can set the Date and Time and also the Date Time format of NVR.

Step 52 Setup>System Configuration>Date and Time,

Enter the date and time interface like Figure 4-40 showing.

Figure 4-40 Date and Time configuration



Step 53 You can input the correct time.

Step 54 Choose the date and time format which you want to use with.

-

9.2 Camera management

In the camera management interface we can configure the parameters of the cameras which have been added to the NVR.

The way how to configure the device from NVR and from WEB is same. Please reference the network cameras "IE Web browser interface Guide".

10 Web Browser Access NVR

NVR Web Server, built-in Flash technology supports IE, Chrome, Firefox, Safari and other popular browsers. Can be quickly be configured through the Web, live preview, video playback, alarm retrieval, NVR configuration, camera configuration and other operations.

10.1 Login

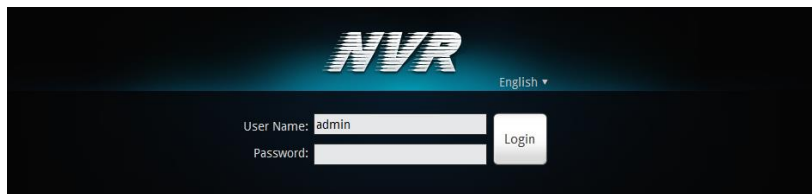
The NVR default IP address is: network port 1 is 192.168.0.121 You can use a Web browser to access the IP address in the address bar input device, such as: connection through the Ethernet port 1, enter: <http://192.168.0.121>

CAUTION

- Web access, please confirm that the network is properly connected, and the network is unobstructed, and you use the correct IP address
- The system must have the flash player installed before main system can be used.

NVR Web login screen shows in Figure 4-41.

Figure 4-41 NVR Login interface



Enter a user name and password into the login screen to enter the main page

User Name and Passwords both are **admin**

NOTE

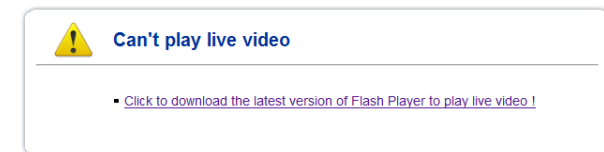
Super user: admin, super user password: admin. User names and passwords are case-sensitive. Please modify the password after the first login. After three tries the user will be locked, and will no longer be able to continue to log in until the administrator can unlock the user, how to unlock Check Network Video Recorder User's Manual " management.

10.2 Operation Read

10.2.1 Player

NVR Web Video function needs Adobe Flash Player to support, If not install the Adobe Flash Player or the player version is too low then it can't play the Video show in Figure 4-42.

Figure 4-42 can't play video interface

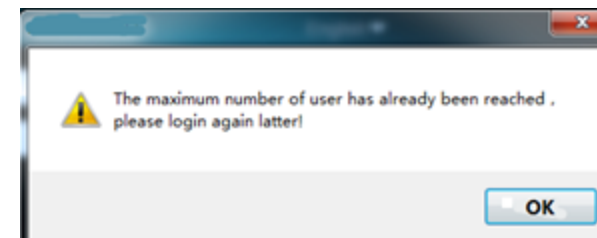


Please download and install the right Adobe Flash Player.

10.2.2 Video capability

NVR Web the max can support 4 users to access the Web and use the NVR at the same time, when online over 4 users a dialogue will be show as Figure 4-43.

Figure 4-43 Number of users exceed

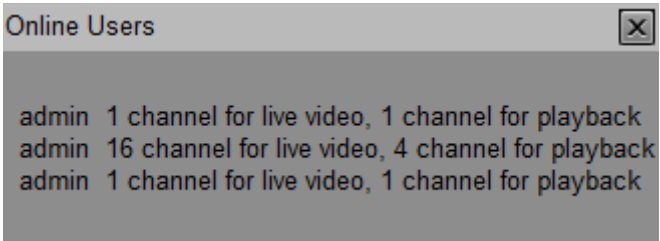


NVR Web only support 6 channel Live video and 1 channel playback for one user login (maximum ability),other users only support 1 channel Live video and 1 channel playback(minimum ability).

The first login user will be the maximum ability user. Other all are the minimum ability users .when the maximum ability user logout then the next user login in will be the maximum ability user.

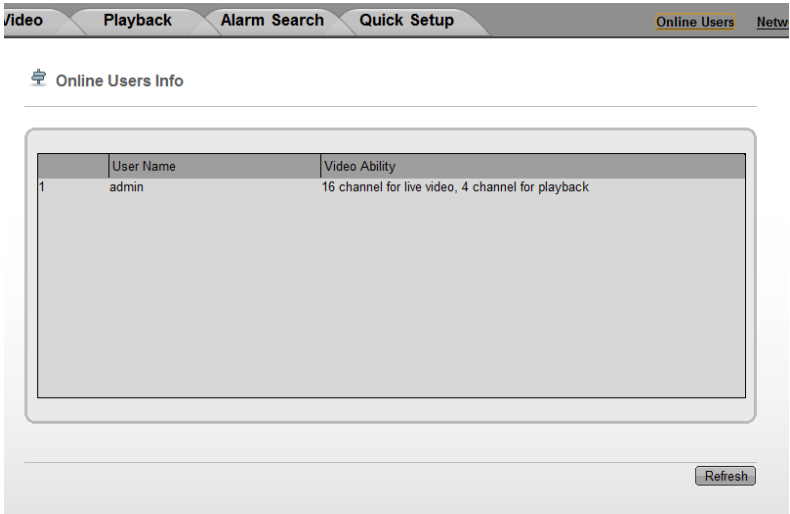
So NVR Web will adjust Video ability according the user login .when user login the right and bottom will show a message as Figure 4-44.

Figure 4-44 User Video ability information interface



Click the Online Users on the Web will enter the online users interface .from there we can see all online use’s video ability show as Figure 4-45.

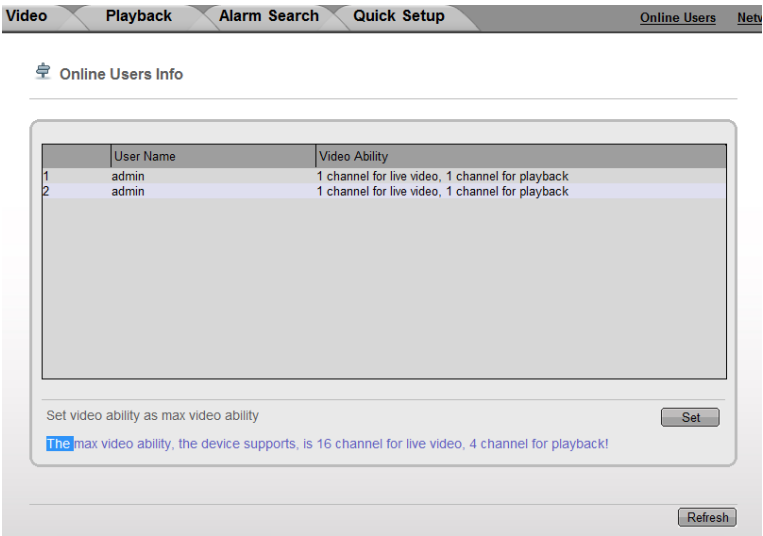
Figure 4-45 online users



Click Refresh can update the information.

If the maximum ability user logout, Online users interface changed and can be set .Show in Figure 4-46 then other users can set his video ability.

Figure 4-46 set user video ability

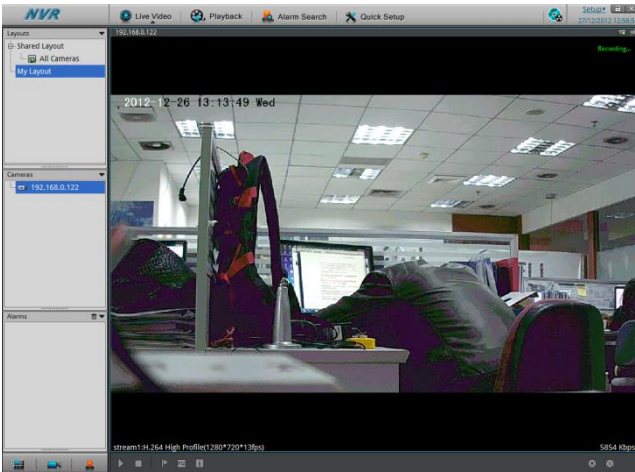


If other users set to be maximum ability the interface will back to Figure 4-46 and can’t set the ability anymore. If setting failed a failed message will be display.

10.3 Live Video

After login the Web, we can see the live video by select the cameras show in Figure 4-47.

Figure 4-47 Live video





10.4 Playback

You can play back the video by Playback interface.






Operation Steps

Step 55 Click Playback to enter the playback interface show in Figure 4-48 .

Step 56 Select the camera that need to playback.

Click the camera of list,  means device was chosen,  means device was not chosen.

Step 57 Select date.


Check the date on calendar  、  change month,  、  change year.  Means the date chosen. If the date with Green color means this day exist video recorded, or will not.

Step 58 Video play

After select the date then the video display area can play the video .Above File axis is Recording time, the middle blue time represents the current video playback time.

File axis display equipment video, red alarm video, green for normal video.

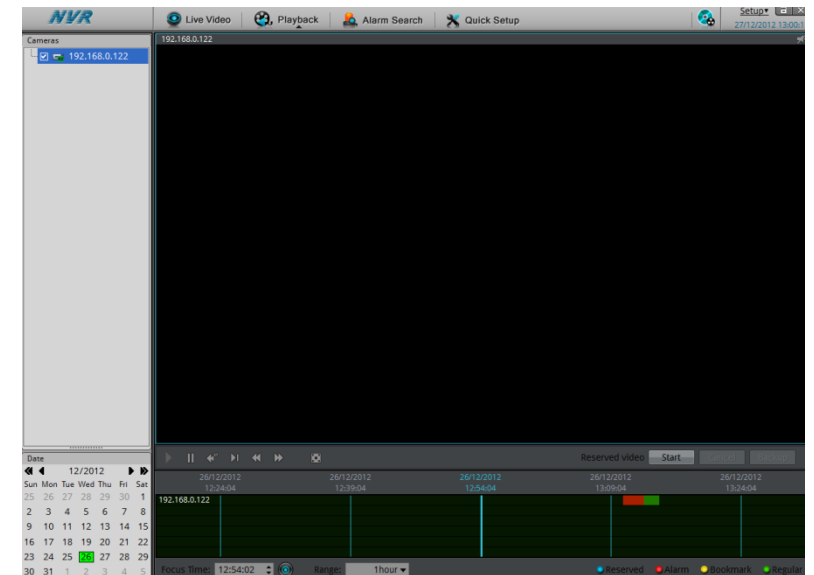
Step 59 Video play

When select the date and camera then we can playback the video, show in Figure 4-48 control bar  button to begin play video.



: Play, Stop, Fast forward, Rewind

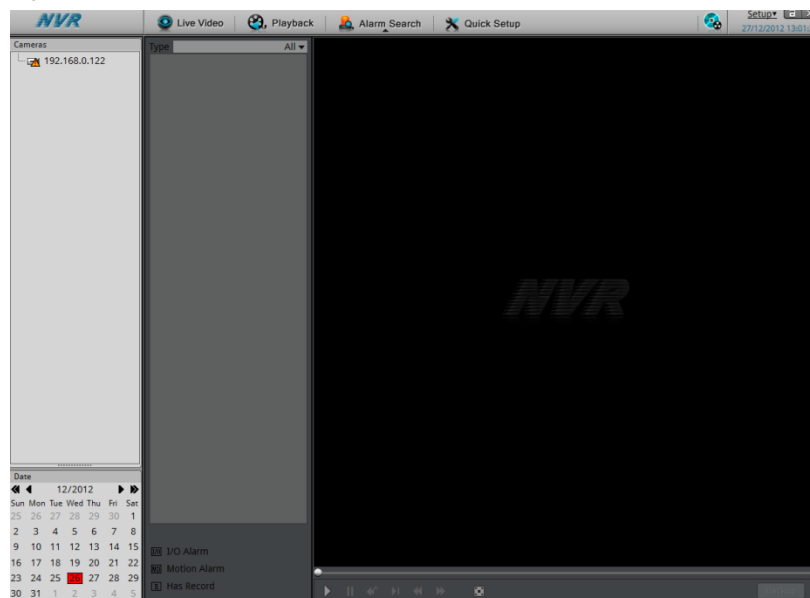
Figure 4-48 Playback



10.5 Alarm Search

Click the Alarm Search enter the alarm management interface show in Figure 4-49.

Figure 4-49 Alarm search



Step 60 Choose the device on the left that need to see the alarm information.

Step 61 Choose the alarm type by the bar Type.

Step 62 Choose the date.

Check the date on calendar. ◀, ▶ change month, ◀◀, ▶▶ change year. 12 Means the date chosen. If the date with Red color means this day exist Alarm video recorded, or will not.

Step 63 Video play.

After select the device and date, the alarm file will display below the Type. And click

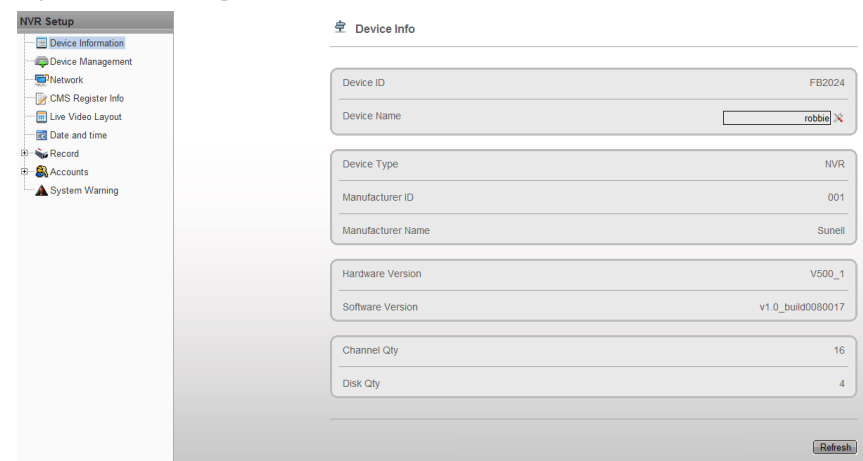
▶ to begin play video.

10.6 NVR setup

Click the NVR Setup on the Web enter the NVR configure interface show in Figure 4-50.

(Detail setting please refer to 8.1 NVR setup)

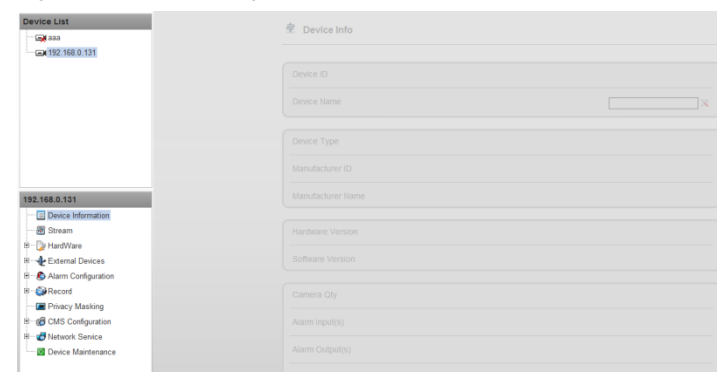
Figure 4-50 NVR setup interface



10.7 Network Camera setup

Click the Network Camera Setup on the Web enter the camera configure interface shows in Figure 4-51.

Figure 4-51 camera configure interface




Detail setting and operation please refer to <Web operationmanu>.

11 NVRClient Access NVR

Operation condition

You have installed NVRClient already.

11.1 Start and Run

If you have installed NVMS please run it by this icon  to the Login interface.

11.2 Login

When the Login interfaces, enter default user name: **admin**. Password: **admin** show in Figure 4-52.

Figure 4-52 Login interface



11.3 System main interface

After enter the correct user name and password: click Login to system main interface show in Figure 4-53.

Figure 4-53 main interface



11.4 System Management

After enter main interface, select System Manager.

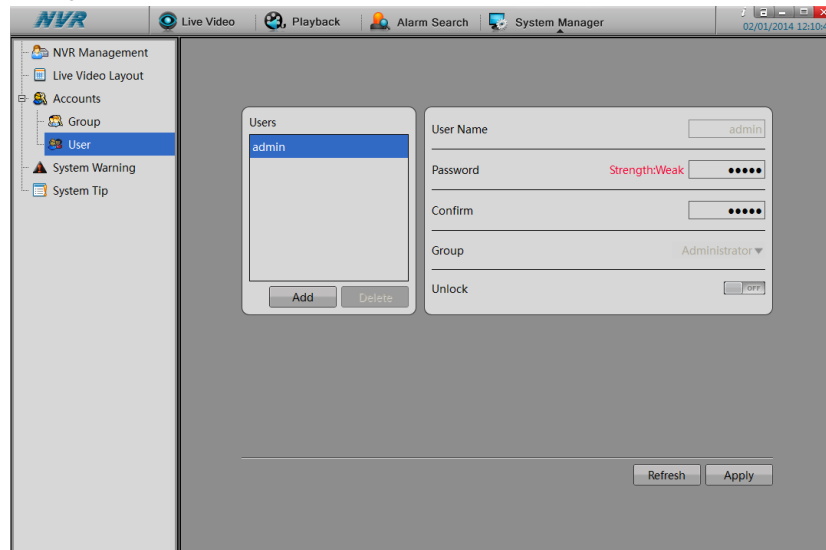
11.4.1 Accounts

Accounts interface can change the default user name and password.

Operation Steps

Step 64 Select System Manager->Accounts->User interface show in Figure 4-54.

Figure 4-54 Accounts interface



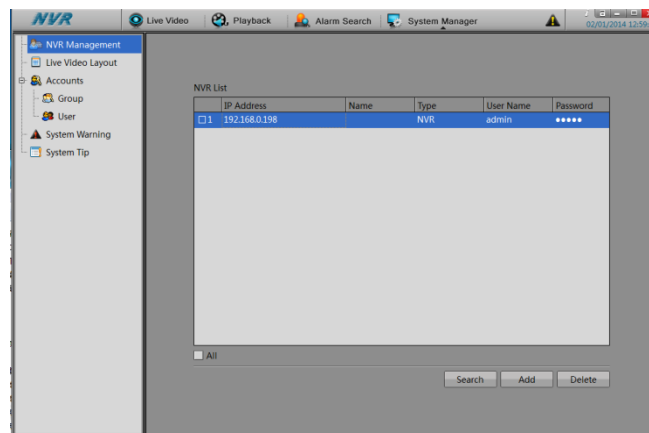
Step 65 Enter the user name and password, and click Apply to save.

11.4.2 NVR Management

Add NVR to system .

Step 66 Select System Manager->NVR management

Figure 4-55 NVR Management



Step 67 Add NVR by Search or Add manually

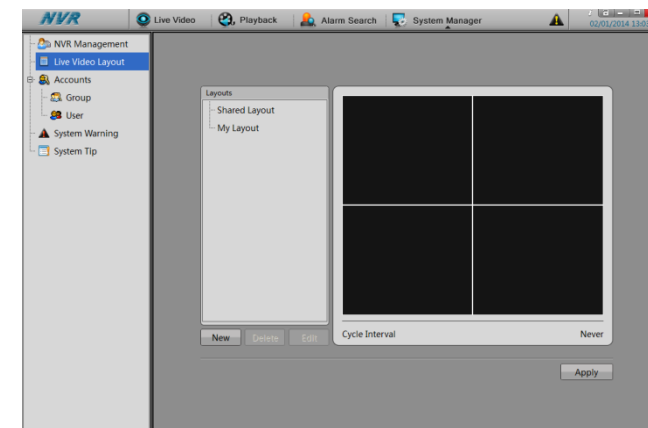
Click the Search button ,then Scan to search the NVR with same LAN .Or Click Add to add the NVR by IP address

11.4.3 Live Video Layout

Modify the Layout by customize .

Step 68 Select Device manager->NVR management->Live Video Layout show in Figure 4-56

Figure 4-56 Live Video Layout

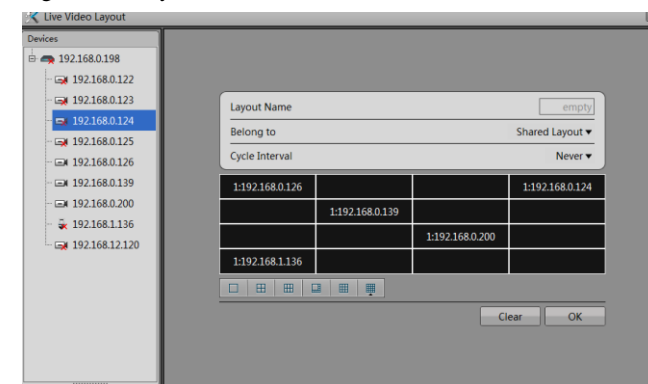


Step 69 Click New ,and select a 1/4/6/9/16 default layout



Step 70 Select the cameras from the NVR ,and drag the camera to the default layout to customize your layout . Show in Figure4-57.

Figure 4-57 Layout



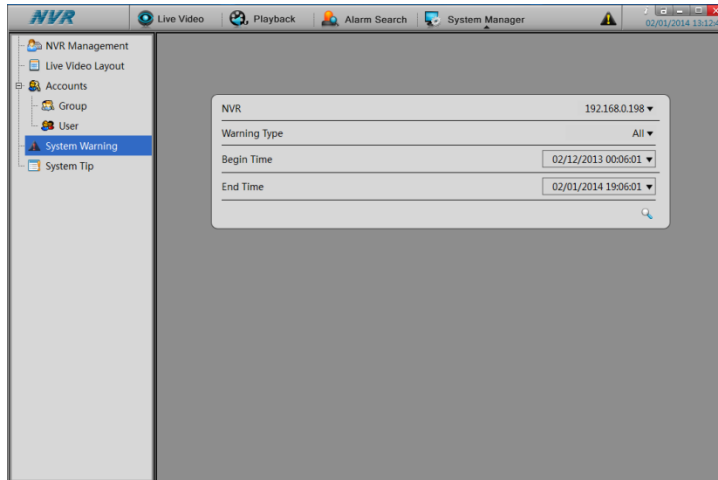
Step 71 Click OK to save .

11.4.4 System Warning

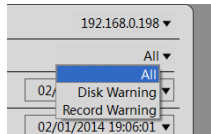
To check the Alarm information.

Step 72 Select System Management->System Warning , show in Figure 4-58

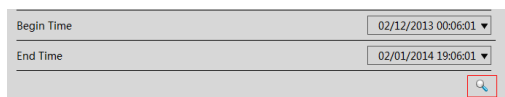
Figure 4-58 System Warning



Step 73 Select the NVR ,and select the Type



Step 74 Set the Begin Time and End Time ->Click Search

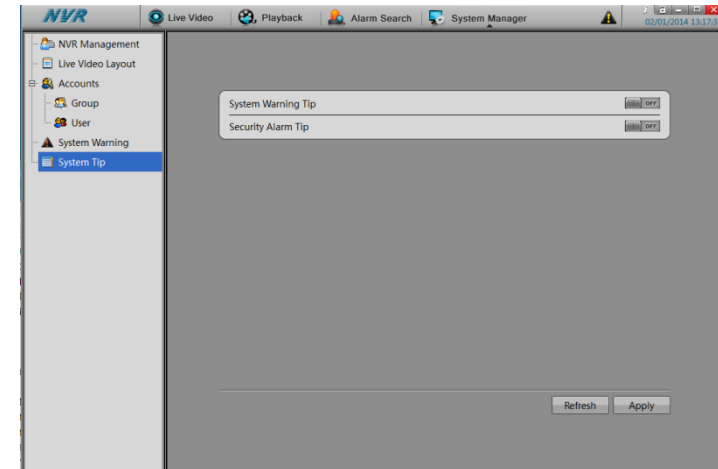


11.4.5 System Tip

Select System Management->System Tip show in Figure 4-59

For Turn on/off alarm message display on Live Video or not .

Figure 4-59 System Tip



11.5 Live Video and Playback

NVRClient can remote Live view/playback the NVR recording video.

11.5.1 Live Video


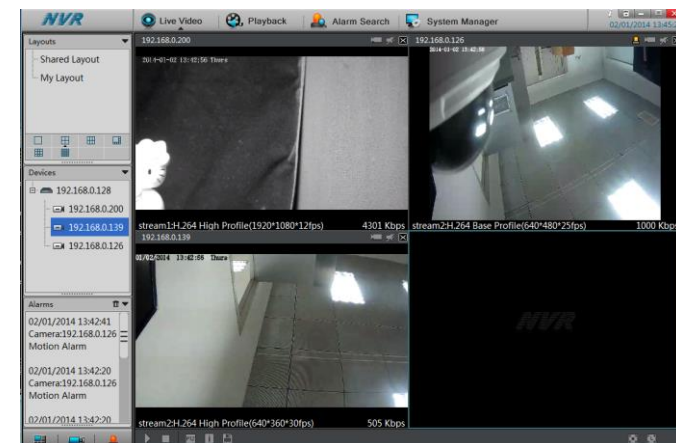
Click Live Video , and drag the camera to the layout for live video show in Figure 4-60

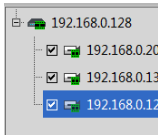
Figure 4-60 Live Video



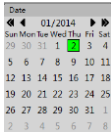
11.5.2 Playback

Click Playback  to inter Playback interface.

Step 1 choose the camera

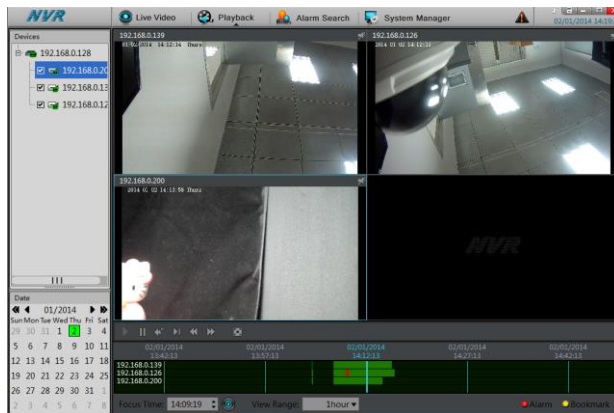


Step 2 choose the date, If there is recording it will be green, Click the date



Step 3 Click Play  show in Figure 4-61 .

Figure 4-61 Playback



12 F.A.Q

1. Why stop the device self-test interface does not move?

You can be processed in accordance with the following methods:

Method one: Check the NVR are not equipped with hard disk;

Method Two: check the NVR detected, but not formatted;

Method three: Check the hard disk has been damaged;

Do not need to use the hard disk, you can click continue into the device.

2. Why interface display incomplete or location offset?

You can be processed in accordance with the following methods:

Method: automatically adjust the display function.

Method: In the login screen, select the adjustment, enter the display adjustment interface. Detailed steps Check 3 operating manual required reading.

3. Why monitor cannot see the image?

You can be processed in accordance with the following methods:

Method One: Detect Displays power;

Method Two: Detect Displays whether the correct access NVR;

Option 3: Please restart NVR.

4 Why can search the network camera, but can connect?

Please be sure network cameras and NVR are in the same subnet.